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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,439	07/16/2003	Christian Miller	53813	6959

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EXAMINER

MANOHARAN, VIRGINIA

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,439

Applicant(s)

MILLER ET AL.

Examiner

Virginia Manoharan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors, e.g., typographical, grammar, idiomatic, syntax and etc. Applicants' cooperations are requested in correcting any errors of which applicants may become aware in the specification.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 – 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a). The preamble of claim 1 recites " A process for carrying out a reactive distillation", however, the body of the claim does not mention any reactive distillation process.

b). The following claimed languages lack proper antecedent supports in the claims:

- 1). "the column", claims 1 & 11;
- 2). "the ..fresh catalyst..", claim 3;
- 3). "the region in which the catalyst is located in the column", claims 4 & 8;
- 4). "the middle region of the column", claim 9;
- 5). "the catalyst which has been separated off ", [the catalyst has not been initially recited as being separated off in the base claim];and

6). "the bottom of the column", claim 10.

c). It is unclear how the catalyst containing suspension is "treated in a work-up stage" especially since the specification does not positively recite the working-up stage.

d). Claim 12, as recited, is at odds with the claim from which it depends, i.e., claim 1. Claim 1 recites "catalyst...is continuously discharged ...and is treated in a work-up stage..", whereas, claim 12 recites "the catalyst is separated off by filtration, flotation or sedimentation" which is inconsistent therewith. See also claim 14. Note further claim 16 reciting "the aldolization of acetone..", as opposed to the reactive distillation of claim 1. [A dependent claim incorporates every features of the claim from which it depends and cannot change nor orient the limitation already recited in the independent claim].

e). It is unclear what constitute the "by another method" claimed in claim 14 within the context of the claimed invention.

f).). The inconsistent used of terminology in the claims is improper. For examples: "catalyst" in claim 4 as opposed to "the catalyst particles" in claim 5.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (5,510,089) in view of Sibeud et al (3,897,219) or Euzen et al (4,187,169).

Jones discloses a process for carrying out a reactive distillation in the presence of a catalyst wherein part of the catalyst-containing suspension is continuously discharged from the column and is treated in a work-up stage and at least part of the worked-up catalyst is returned to the column, as broadly claimed in claim 1. Jones further discloses the method wherein the catalyst is discharged from the column during operation of the column, and wherein worked-up and/or fresh catalyst is fed into the column during operation of the column as further claimed in claims 2 and 3 respectively. See the abstract, and cols. 2-4. Note also, the wire mesh claimed in claims 6-7 which is read e.g, in the Jones' abstract. The process of Jones differs from the claimed invention in that claim 1, for example, recites that the process is carried- out in the presence of a heterogeneous catalyst which is suspended as disperse phase in the liquid..”

Sibeud, however, teaches that optimum reaction rates are obtained if a good dispersion of stream is formed in the fluid catalyst phase. Note col. 11, lines 35-41. See also col. 4, lines 26-29 of the Euzen's reference. To combine Sibeud or Euzen processes to Jones' process, to arrive at the claimed invention, would have been obvious to one of ordinary skill in the art inasmuch as all the references are directed to treating or working up the catalyst and regenerating said catalyst in the system.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a). King discloses a highly heterogeneous catalyst which can be removed from the product by filtration.
- b). Saam discloses a method wherein the catalyst form a separate dispersed phase.

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c). Goins et al discloses a heterogeneous catalyst process.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to V. Manoharan whose telephone number is (571) 272-1450.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "V. Manoharan".

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12/26/05